IT Governance in the Supermarket Retail Industry in a Global Recession

Completed Research Paper

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ABSTRACT

The continued economic growth slowdown has affected many emerging economies. In this situation, global business expansion has been weakening. This leads most organizations, including the supermarket retail industry to limit their capacity in planning new projects. To overcome challenges, top leaders should pay close attention to their organizational environments and cultures. In doing so, they should develop both business and IT strategies to empower their businesses and identify the risks by implementing IT governance, which is considered as one of leading solutions to solve the existing problems. It is vital for executives, stakeholders, senior managers, and project leaders, who are in top-level and middle-level management positions, to understand the benefits of IT governance. Therefore, this study aims to reveal the findings and reasons for which organizations should implement IT governance by sharing the changes, which emerged before and after implementation in one of leading supermarkets in Australia.

Keywords: IT Governance, Supermarket, Australia, Pre-Defined Implementation, Pre-and Post- Implementation

INTRODUCTION

In most organizations in any industry, business and information technology (IT) departments are the two main operational departments. On the basis of the contemporary business, every organization pays more attention on the IT department, which is realized as an essential department because of the business oversights, collapse of many international organizations, and heavy losses caused by big scandals in different industries. This information provides the massive shocking losses and draws high attention to top management in questioning about organizational management. These unsuccessful organizations were self-inflicted and unsure about how to effectively cope with business. Furthermore, their financial situations, technological fundamentals, and organizational environments were recognized to be unsteady, riskier, more volatile, and less effective and included egregious errors. Then, IT governance emerged to support these organizations, which mainly controls the IT department to build successful organization plans and processes by implementing IT governance to provide more assistance to top management such as business-IT enables, activities, insights, problem solving using IT (Schwarz and Hirschheim 2003).

IT Governance is a 21st century topic that is necessary to discuss in the round table meeting. It is an on-demand issue, which is considered as a prerequisite in current businesses (Brown and Sambamurthy 1999; Weill and Broadbent 2000). It is a popular issue that is vital worldwide and is one of the main components of corporate governance because of the encircling power of information systems and connected technology infrastructure in all domains of organization's processes (Bhattacharjya and Chang 2006). Simultaneously, it is an arrangement of management with organizational structures and processes, which support and ensure that IT can maintain and conduct business and manage organization effectively as well as meet organization's strategies and achieve business goals by delivering value to the business and minimizing risks (ITGI 2003; Bhattacharjya and Chang 2006; Ali and Green 2009). In addition, it is a component of corporate governance, which supports strategic planning, resources allocation, information analysis, decision making, and business processes automation (Luo 2005). Therefore, it is compulsory that IT governance manages all unethical business activities. The IT governance structure comprises top management people and organizational structures and processes (IT Governance Institute 2003), responsibilities of the board of directors and the organizational resources and information management (O'Donnell 2004; Bernroider and Ivanov 2011), decision making arrangements, and alignment processes and collaboration mechanisms (Weill

and Ross 2004). Certainly, IT governance also allows top management of business and IT departments to plan the policies and processes by using them in specific areas of operations through the examination of results (Weil and Broadbent 1998). Therefore, these components of IT governance develop management control systems and assure strategic organizational development with business objectives. Because of the capability of IT governance, it works as a tool of strategic business–IT alignment (Henderson and Venkatraman 1993; Hirschheim and Sabherwal 2001). Therefore, these factors and procedures lead IT governance to align business and IT departments successfully and effectively.

To build and operate organizational strategies to meet business objectives, the following components should be present: (1) accountabilities of boards and executive management, (2) business governance, (3) organizational directions, and (4) IT organizational infrastructures with processes (ITGI 2005; Brown 2006). Meanwhile, the organizational structures, processes, and business relationships collaborate simultaneously to establish IT governance (Peterson 2004). However, boards and top executives must adopt the most applicable processes, which can be established in the organizations and comported to the business environments, particularly measuring IT governance effectiveness, providing proper budgets and consistent financial support services, and allocating a suitable amount of IT resources with higher capabilities (Henderson and Venkatraman 1993; Brown 2006).

The present businesses in different industries are complicated and complex. It is vital for organizations to carefully plan strategies prior to investing in any project to ensure with high confidence that they will achieve their business objectives, gain effective outcomes, and attain higher business productivity. Therefore, organizations should consider protecting their businesses from risks and uncertain situations by implementing IT governance to strengthen their businesses. However, it is important that the entire plan must be managed well by focusing on different phases such as pre-defined implementation, pre-implementation, and post-implementation. This leads to scrutinize the dynamics of integration between all entities and IT governance to be connected effectively. Consequently, this study aims to reveal the findings and reasons for which organizations should implement IT governance by sharing changes, which emerged before and after implementation in one of the leading supermarkets in Australia. First, this study presents the theoretical background. Then, it clarifies the research method in the third section. Later, the empirical data and analysis of a case study are explained in the fourth section. The final section includes the conclusions and limitations, which sums up the entire research.

THEORETCAL BACKGROUND

Socio-Technical Systems (STS) Theory

The STS theory was originally created for use in complex collaborations and organizational development (Emery and Trist 1960; Trist 1963; Cherns 1976; Baxter and Sommerville 2011; Lu et al. 2011; Chai and Kim 2012). This study aims to investigate and focus on the complex interrelationships between social and technological systems within an organization, particularly comprehensive IT projects (Sawyer et al. 2003). The STS theory incorporates the involvement between people and technologies (Pasmore et al. 1982; Chai and Kim 2012), organizational environments (Emery and Trist 1960; Baxter and Sommerville 2011) and tasks (Bostrom and Heinen 1977; Lu et al. 2011) by indicating the processes required to effectively run a business, leading people within organizations to strive for higher performance in achieving economic objectives. To highlight the importance of humanistic principles in a social system, STS concerns people and society (Shin and Jung 2012), and the relationships between people and their characteristics in particular skills, ideas, and reputations (Bostrom and Heinen 1977). Meanwhile, IT, processes, tasks, and technologies (Bostrom and Heinen 1977; Chai and Kim 2012) optimize business productivity, improve work performance, and adds more business values to the organizations. In this way, the STS theory delivers a holistic analysis of the following key developmental components of an organization: technical systems (IT infrastructures, tools, applications, and services), social systems (markets, customers, and industry), and the environment (regulations, policies, and society) within a system (Shin and Jung 2012).

The STS theory specifically aims to mesh human ideology with systems engineering (Mumford 2006). Therefore, social and technical systems usually operate cooperatively and mutually to build certain positive outputs. IT infrastructure is a key organizational component in technical systems that should be primarily focused by top management. It is a key driver of knowledge projects that delivers appropriate knowledge management systems in successful organizations (Davenport and Prusak 2000). In addition, knowledge sharing in social systems is viewed as one of the IT resources that improve people's understanding in IT. This is achieved by providing IT training to familiarize trainers with IT infrastructure and IT innovations that have been adopted within an organization (Davenport and Prusak 2000). In doing so, the STS theory can be applied in any organization that has already implemented and used IT (Chai and Kim 2012). This assists the organization to become more successful in obtaining results from technology projects involving complex interaction between social and technical systems (Borgman 2000). This is achieved by allowing the STS theory to provide support to implement or augment agile

development of IT infrastructures, IT resources, IT innovations, and new technologies, which strive to create new methods of social interaction and also deliver high levels of productivity and operational efficiency (Allen 2003). Therefore, the social and technical systems and organizational environment are extensively recognized to promote inter-relationships by collaborative networks driving and developing any business. Top management must provide deeper understanding of social change processes and more budget resources for IT investments. Consistent with the view of the STS theory, IT infrastructures, IT resources, IT innovations, or new technologies alone cannot be expected to successfully run projects in most organzations. It is vital to have close relationships among individuals, using negotiation skills as an aspect of these relationships, to lead to the emergence of effective reciprocal assistance, including the least possible hindrance in conducting the business expeditiously. In addition, the STS theory is considered as a model for engaging social and organizational environments, in which technologies and people are equal partners (Shin and Jung 2012). Consequently, the STS theory essentially focuses on the collaboration concept to scrutinize the forces of technology on tasks from the social aspect, which are based on the integration of social factors and tools; in particular, people, technologies, and tasks.

RESEARCH METHOD

The research is designed using the qualitative research method (Benbasat et al. 1987) with an interpretive case study (Klein and Myers 1999). This research specifically focuses on the complexity of a single case study and develops an in-depth understanding of an assured phenomenon of interest with semi-structured interviews (face-to-face meetings, emails, and telephone follow-ups), personal observation in workplaces, and qualitative questionnaire surveys. A single case study was selected for this research, which aims to focus on how to implement IT governance in the environment and determine people's experiences in different issues during pre- and post-implementation within an Australian supermarket, GHI (an alias). In addition, it also adopted the "how" question in existing situations (Benbasat et al. 1987; Eisenhardt 1989; Walsham 1995; Yin 2003) within this research, which is "How does implementation of an IT governance framework contributes to the value profile of the IT infrastructure in achieving business objectives and meeting its needs?" Furthermore, it opted to use an in-depth approach to examine IT governance implementation, along with organizational culture and context, which contains complex human and IT components (Tyrell 2002). Furthermore, the method of this research also addresses the main factors, which emerged during pre- and post-implementation in GHI by highlighting strategic direction, IT services, human resources management and relationships, and IT resources (training and investment). These factors provide better understanding and more organizational awareness (Bhattacharjya and Chang 2006) and also achieve the research objective. Therefore, these well-supported factors from this case study lead to build up good IT governance practices. In this way, the GHI supermarket can grow its business successfully during economic downturn.

Research on GHI supermarket in Melbourne, Australia was conducted over one month and included nine face to face interviews. All interviews were digitally voice-recorded and transcribed, with additional and updated information drawn from GHI supermarket's website and newspapers. The informants included a Web Services Manager, a Project Management Office Manager, a Payment Services Manager, an IT-Shared Services Delivery Manager, an IT-Shared Services Application Manager, an IT Payment Services Application Manager, an IT Payment Services- EuroPay, MasterCard, Visa (EMV)/ Payment Card Industry (PCI) Certification Manager, a Finance and Corporate Systems Delivery Manager, and an Information Management Delivery Manager. Data were collected from all interviews conducted at different times, which were based on empirical data, theoretical views, and the existing documentation (Eisenhardt 1989). Furthermore, this research captured the important statements from the interviewees (Pratt 2009). Therefore, there is a potential to create a mind map to illustrate the empirical data (Layngley 1999). Then, the entire picture of each informant's statements and mind maps were thoroughly analyzed with theoretical considerations. In addition, this data analysis process was included in the final assessment, which identified the complete findings from the case study (Eisenhardt 1989).

CASE DESCRIPTIONS

In 1914, GHI was set up as the first variety store in Melbourne over 90 years ago. In addition, it was listed on the Melbourne Stock Exchange in 1927. Later, it opened the first supermarket in 1960 in Melbourne. By 1973, it expanded the business by establishing more supermarkets in all capital cities throughout Australia. Subsequently, it built up various supermarkets, department stores, and home improvement and office supplies businesses across Australia, which sells varied products in different sectors; for instance, alcohol, food, clothing, footwear, accessories, cosmetics, housewares, electronics, home appliances, furniture, general merchandise, toys, stationery, and technologies. In 2003, it moved into another market by starting convenience stores at petrol stations, which sells both fuel and convenience products. Subsequently, it took over Hedley Hotels and Talbot Group Hotels in Queensland in 2006–2007. In this way, the hotel industry became another sector of GHI's business along with the supermarket liquor stores. Eventually, there was the largest acquisition in Australia for $20 billion in 2007, in which GHI was acquired and taken over by ZZZ, one of the largest organizations in Australia. Since then,

GHI is owned by ZZZ. Today, GHI is a leader in Australian retailing business in food (supermarkets), liquor, hotels, and convenience stores.

IT OPERATIONS AND MANAGEMENT

IT is the one of the main factors, which facilitates and enables business activities to be conducted effectively. IT operations and management at GHI focuses on achieving success in business, leading its people to be attentive, and increasing their focus on their jobs by having more responsibility to support business units and departments so that they perform their jobs more effectively. In this way, the IT Group Manager has decentralized business operations to people in different roles, jobs, and responsibilities to suit the nature of work in different sections. This means IT Group Manager selects a General Manager of different IT Sections to operate each individual task, as shown in figure 1. The large size of the organization helps in managing and performing the business activities with less complexity. Therefore, the employees can focus only on their scope of work as they clearly have a limit to their responsibilities. However, all sections in IT have to work collaboratively because their processes are interconnected. At this stage, all sections in IT have to cooperate with each other to seamlessly run all processes to meet customer satisfaction and business requirements.

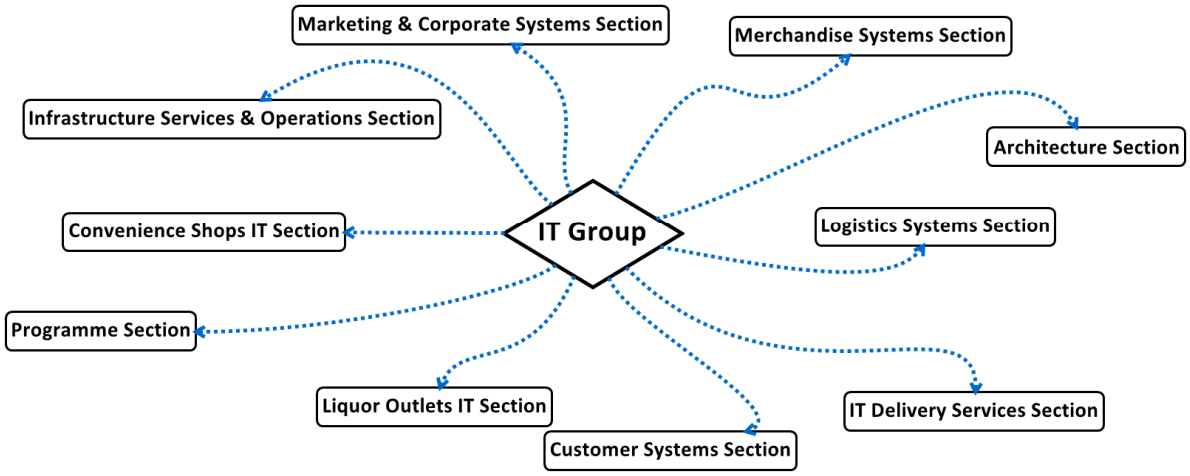

Figure 1. Relationship of all IT Sections within the IT Group of GHI

EMPIRICAL DATA AND ANALYSIS

Pre-Defined Implementation Needs and Vital Factors (Things that should be Known and Ready)

First, GHI determined the needs and vital factors, which required to be deployed at the beginning stage. Figure 2 demonstrates varied main drivers used to implement IT governance within GHI productively. In conjunction with these drivers, responsible personnel built and supported IT governance implementation and conducted business efficiently to achieve its objectives in a robust manner. The Finance and Corporate Systems Delivery Manager revealed,

> *"The stakeholders are typically from the businesses. So, they are aware of the business needs in the changes of technology, policy and regulation, where communication exists. So, we proactively see errors of responsibility within the IT organization."*

The IT Payment Services Application Manager stated,

> *"We communicate with every branch, every manager of all areas of business because we keep watching different business capacities, strategic plans, business projects. These may affect our organizational systems."*

The Project Management Office Manager mentioned,

> *"Well-built governance supports people in working within their projects. This helps everyone recognizes personnel jobs and the scale of individual authority and responsibility automatically. Then, it is easier to acknowledge how capable the projects are by checking the status, timeline, outcome and quality of their projects."*

The Payment Services Manager noted,

"Training and proper involvement are the main keys to be treated, as a serious change in an organization and its management."

The IT Payment Services Application Manager remarked,

"PARC always makes sure that all projects will not spend over the budget. Moreover, it is compulsory for IT which needs business drivers and top management support."

The IT-Shared Services Application Manager observed,

"Colleagues follow the business process to align strategy, Return on Investment (ROI), and provide business value in due course."

The Finance and Corporate Systems Delivery Manager said,

"We need to provide enough resources to meet Service Level Agreements (SLAs)."

The Information Management Delivery Manager commented,

"IT people need soft skills to communicate to business customers. So, they can acknowledge how to analyze business proficiently and experience how to engage customers smartly."

The IT Payment Services EMV/PCI Certification Manager pointed out,

"Organizational change management can support having a strong governance framework, which can strengthen the business and also renew organizational culture to be more flexible and more responsive to the business needs."

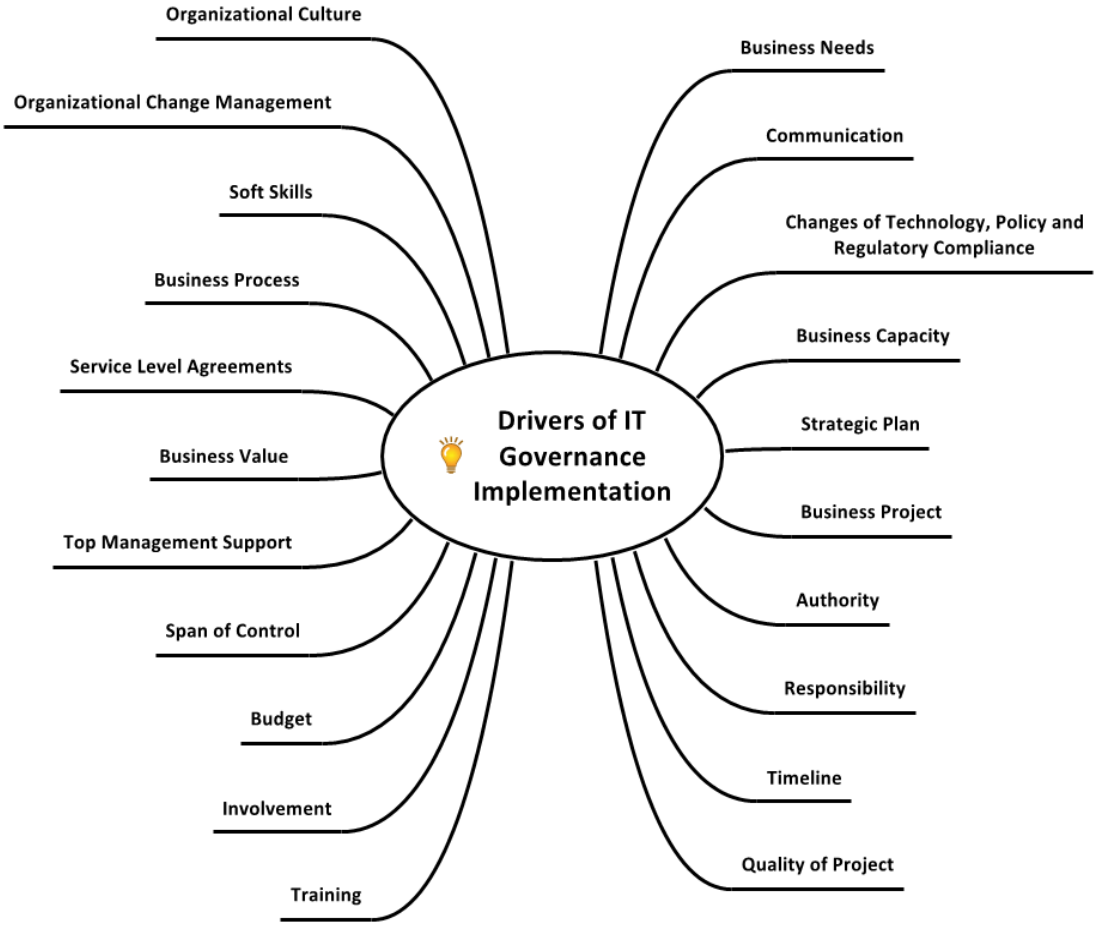

Figure 2. Drivers of IT Governance Implementation

Pre-Implementation Difficulties

The scale and size of GHI's organization led people to have an essentially unclear understanding about the differences between business and IT functions and roles, which emerged numerous difficulties, as shown in figure 3. At the preliminary stage, people were unfamiliar with the changes. They were uncomfortable to change their work practices. People in business and IT departments had poor communication. Therefore, they had a bad culture, inactive organizational environment, encountered relationship conflicts, and this made some processes more complex than necessary. These were the effects of pre-adoption in IT governance implementation. The Web Services Manager remarked,

> *"Some people in the business said the IT governance framework slows things down. They complained that we take too long and we are too slow. There are too many processes, many failed projects, and many business functions did not support their businesses. So, it is really important that any governance process or any IT delivery methodology must have an alignment. They need to be quick to deliver the needs to be robust and reliable and get a proper IT services out at the end of the day."*

The Project Management Office Manager pointed out,

> *"People who have very big projects have to consider numerous factors and different levels of governance along with varied concerns in change management. However, some are not ready and are not capable."*

The Payment Services Manager said,

> *"There is a little resistance in project management."*

The IT-Shared Services Delivery Manager stated,

> *"At the beginning, it was the business mistaken on the documents. Typically, business struggles to be able to put their thoughts and requirements on paper because it does require a degree of discipline to do that and quite often they don't necessary have the skills and quite often that has the time as well."*

The IT-Shared Services Application Manager noted,

> *"Resistance is the issue that happens anywhere in the business. Colleagues put the requests through and asked why they have to follow the process."*

The IT Payment Services Application Manager commented,

> *"In this part of the objective, it slows the business delivery and control."*

The IT Payment Services EMV/ PCI Certification Manager suggested,

> *"I believe the introduction of governance framework has created a reduction in the potential productivity in some ways."*

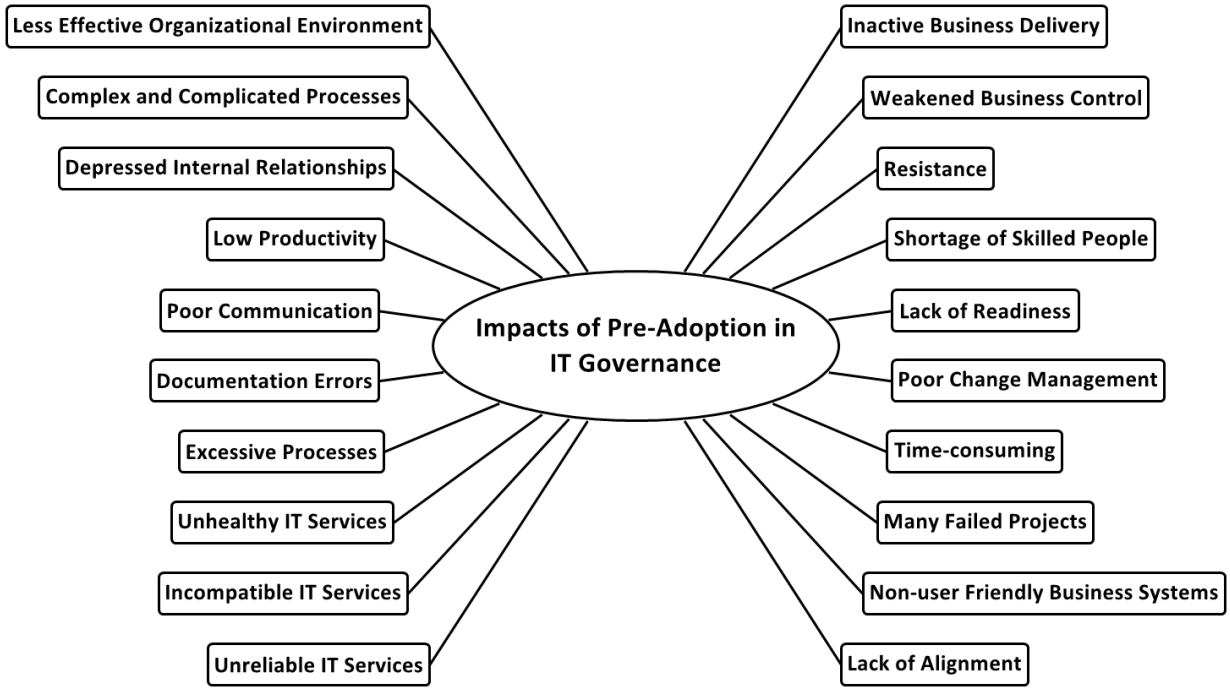

Figure 3. Impacts of Pre-Adoption in IT Governance

Post-Implementation Achievement

After completing the project in IT governance, there are numerous positive impacts in organizational management and business operations. People were encouraged to follow the processes, which have been running routinely. Therefore, they had to keep changing themselves daily. Finally, they automatically improved their work behaviors and attitudes. Then, they found changes that have emerged and turned out to be an achievement in the organizational environment, as depicted in figure 4. The Web Services Manager stated,

> *"I get my definition more reliable, more robust, more likely to work and fewer risks. So, IT governance and IT in general have been the big deliverer of efficiency and productivity benefits in the organization. These things constantly help us to save time, save effort, and save money for the organization. It makes very strong positive impacts for the business. If the project team rolls out something, IT and business people, who are assigned to that project must be involved."*

The Payment Services Manager asserted,

> *"IT governance is driven by IT very much even where it comes to managing the finance. In the governance framework, there are some finance areas involved. Unfortunately, managers have to cut unnecessary costs, which are associated with the governance around project delivery. So, the senior project managers have higher responsibilities in saving money."*

The Information Management Delivery Manager declared,

> *"There is oversight on all of our financial procurement. Governance is around finance, which is a part of the governance framework. So, there are some requirements about numbers of checks and balances."*

The IT-Shared Services Application Manager emphasized,

> *"Our governance framework has become more flexible over the last couple of years. In my responsibilities, business strategy moves faster and some gates have been removed to get approval and some funds. We are not strict on our project methodology anymore. We do not have to do every single document. Project managers pick out the most relevant one for that project. So, that has been about our experience with projects. We are implementing faster. At the same point, we have got fewer staff because there has been significant headcount reduction since ZZZ came in. That has led our productivity increase as well. Most departments have to do more*

work with fewer staff. So, it is definitely productivity improvement that has happened since this governance relaxation. So, there is less frustration, too."

The IT Payment Services Application Manager affirmed,

"I think in efficiency in spending money by shrinking funds and making sure the jobs are done properly."

The IT Payment Services EMV/ PCI Certification Manager stressed,

"It provides a much greater quality of delivery and it may also improve efficiency where something maybe ad-hoc before. Therefore, the same job might need to be done several times because we have a governance framework in place. If we use ability it can be a lot greater. So, you have some savings there. That is the balance of the overhead in implementing framework and what you will gain from it."

The Finance & Corporate Systems Delivery Manager noted,

"The way that we implement things in the organization is sustainable. So, it is not a burden on what we do. It is an acceptable process that we have adopted. Overall, I would say it has been accepted and has not impacted our efficiency. So, we are not over bureaucratic."

The Information Management Delivery Manager clarified,

"For the vendor management systems, it is about the reduction of the testing process and the amount of re-work. So, I think it definitely saves the developers' time in the testing in the implementation phase. And I would hope that it reduces the amount of time on ordered systems as well. But generally it is just around the amount of testing and the way we do the release can be more formal but we can do that less often."

The Project Management Office Manager identified,

"The results are at a satisfactory level. We are very happy with fewer conflicts due to having better communication."

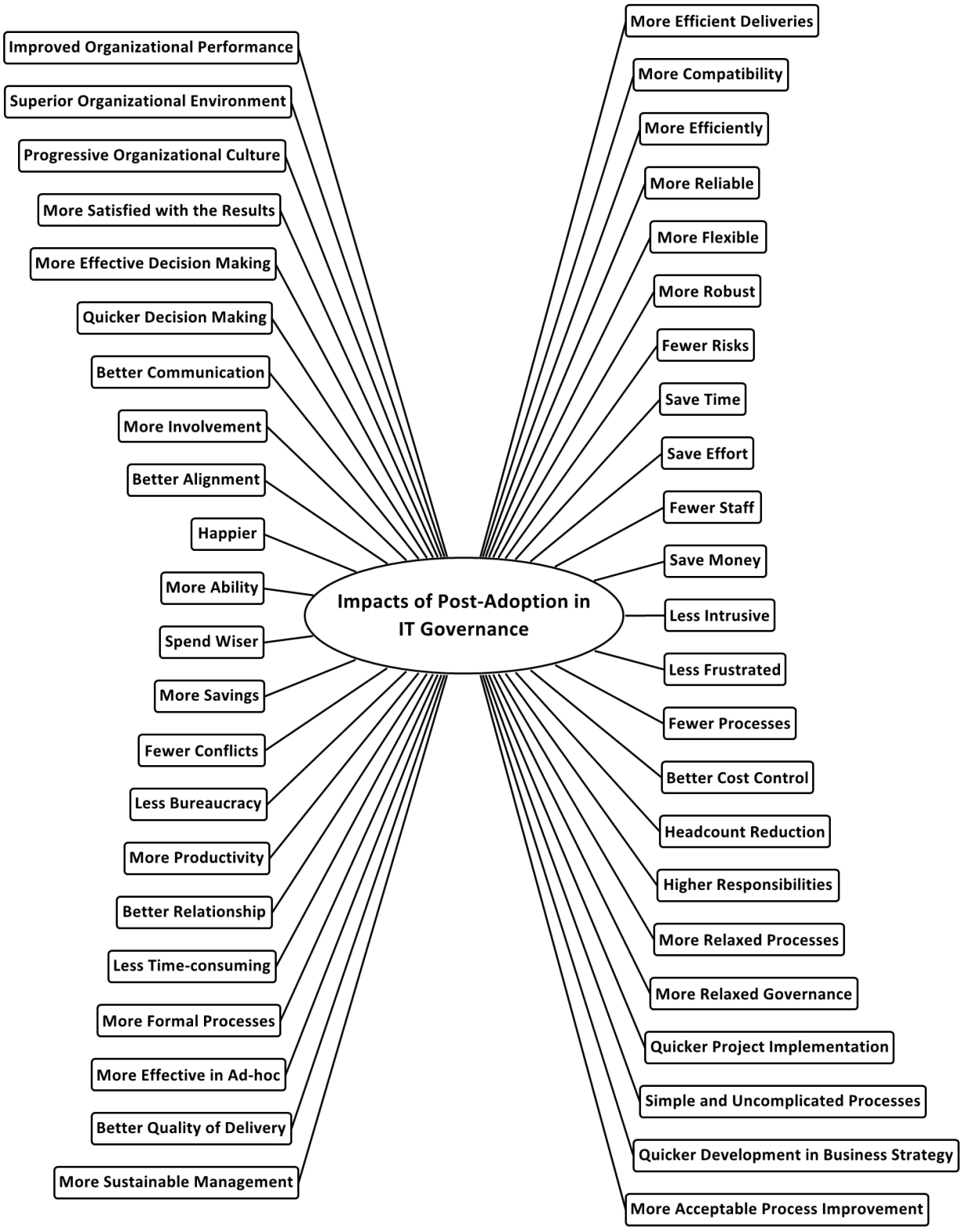

Figure 4. Impacts of Post-Adoption in IT Governance

CONCLUSIONS AND LIMITATIONS

This study encapsulates the IT governance analysis at GHI supermarket, which highlights how IT governance encourages achieving organizational effectiveness. By doing so, this research aims to reveal the findings and reasons for which organizations should implement IT governance by sharing the changes, which emerged before and after implementation within GHI. This can acknowledge that IT governance empowers most areas in GHI by planning strategies, managing business operations, controlling organizational processes, monitoring overall risks, and evaluating organizational performances to achieve higher business productivity. Therefore, all tasks within an organization are embraced by culture, environment, IT and business strategies, process, operation, management, responsibility, authority, role, and IT resources (budget, IT infrastructure, and people with technical and functional skills, smartness, intelligence, expertise, and training). In any case, executives, stakeholders, senior managers, and project leaders in both top-level and middle-level management can prepare themselves beforehand by realizing from this case study on how to protect risks and handle difficulties properly. Their understanding of the benefits of IT governance makes them eager to learn further and also provides additional training to their employees. Meanwhile, they should also recognize business objectives. Then, their organizations will gain higher operational efficiency and organizational productivity.

Referring to the nature of this research, it was intended to employ a triangulation strategy for data collection with in-depth interviews, along with qualitative and quantitative data. Semi-structured interviews and survey questionnaires were selected to collect data of this research from Australian and Thai organizations, which have implemented IT governance. At this stage, data of all organizations have not been completely analyzed yet. However, the findings from data collected in this research will be disclosed further in the following publications, which aim to deliver more benefits and will be more useful in business information systems, particularly IT governance to support both practitioners and scholars.

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